

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the present amendment is respectfully requested.

Claims 1, 2, 4, 13-18, and 27-28 are presently active in this case, Claim 1 having been amended and Claim 3 canceled by the present amendment, and Claims 5-12, 19-26 and 29-37 having been withdrawn from consideration as directed to a non-elected invention.

In the outstanding Official Action, Claims 1-4, 13 and 14 were rejected under 35 USC §102(b) as anticipated by Shimooka et al (U.S patent publication 2002/0187625, hereinafter called "Shimooka"). Claims 15-18, 27 and 28 were allowed.

Applicants acknowledge with appreciation the allowance of Claims 15-18, 27 and 28.

In light of the outstanding rejection on the merits, Claim 1 has been amended to clarify the claimed invention and thereby more clearly patentably define over the cited prior art. To that end, amended Claim 1 includes the features stated in original Claim 3 and the added feature that "the first high-density region has a film density which is maximum at the boundary of the via hole and continuously decreases towards a boundary opposite to the via hole." This latter feature finds support in the specification at page 10, line 6 to page 12, and FIG. 2. No new matter has been added.

As above noted, amended Claim 1 recites that the density of the high-density region is maximum at the boundary of the via hole, and continuously decreases towards a boundary opposite to the via hole. This feature is not believed to be disclosed in Shimooka.

On the contrary, Shimooka in FIGS. 5 and 6 illustrates that a second interlayer-insulating film 11 is provided around plug 9b, and a third interlayer-insulating film 12 is provided around second interlayer-insulating film 11. By virtue of the disclosed structure, Shimooka differs from the semiconductor device of amended Claim 1 in at least two respects.

First, Shimooka does not disclose that the density of second interlayer-insulating film 11 is changed after second interlayer-insulating film 11 is formed around plug 9b. In this structure, second interlayer-insulating film 11 is substantially constant in density along the horizontal direction.

Secondly, in Shimooka, second interlayer-insulating film 11 and third interlayer-insulating film 12 are formed at different steps, and the density of second interlayer-insulating film 11 and third interlayer-insulating film 12 is not changed. Thus, the density of the boundary between second interlayer-insulating film 11 and third interlayer-insulating film 12 changes stepwise.

In view of these differences, it is respectfully submitted that amended Claim 1 patentably defines over Shimooka, and that the outstanding rejection on the merits has been overcome.

Consequently, in view of the present amendment and in light of the above comments, no further issues are believed to be outstanding, and amended Claim 1 and pending active device Claims 2, and 4-28 are believed to be in condition for formal allowance, and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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